



National Aeronautics and Space Administration  
Goddard Space Flight Center

Wallops Flight Facility, Wallops Island, Virginia

# Inside Wallops

Volume XX-00

Number: 35

August 28, 2000

## SEM-08 Ready for Flight

Eye lenses, seeds, water, DNA and steel will be among the components tested and studied by students world-wide as part of the eighth flight of the Space Experiment Module (SEM).

Thirteen passive experiments will fly on STS-106 as part of NASA's SEM program, which is managed by the Wallops Flight Facility. The SEM program is an educational initiative to increase access to space for students in kindergarten through the university level.



*Photo courtesy Carrier Systems Branch.*

**Ann Arundel County students prepare the Spaced Popped Popcorn for integration into SEM 8.**

SEM-08 experiments and the sponsoring organization will include:

**Water, Water Everywhere** - From the State of New York, Town of Tonawanda School District, Buffalo; Edgemont Union Free School District, Scarsdale; Auxiliary Services for High Schools, N.Y. City Board of Education.

This experiment shares a module with "Process of Germination and Plant Growth." Students will observe the effects of microgravity, temperature and radiation on water samples from natural water bodies.

**Houston, We Have an Eye Problem** Irwin Altman School, Floral Park, N.Y. This experiment is to determine if the high radiation environment of space will cause the layers of eye lenses to become cloudy and transmit less light. Eye lenses from sheep and cows will be used in this investigation. Contact lenses also will be tested to determine the radiation effects on the amount of light transmission.

**Investigation of Antibiotic Resistant Mutations in a Microgravity Environment** - Shoreham-Wading

River High School Science Research Program, Shoreham, N.Y.

This experiment is to analyze the differences in mutation rates of antibiotic resistant plasmid DNA exposed to microgravity as compared to Earth's gravity.

**R.S.V.P. (Rams Space Variety Package)** - Parkside High School, Salisbury, Md.

Students will study the effect that the space environment has on a variety of materials such as seeds, film, mini cassette tapes and a radiation dosimeter.

**The Pittsburgh Steelers in Space** - The DePaul Institute for the Deaf, Pittsburgh, Pa. Students will determine the effect of microgravity and radiation on the process of oxidation of various types of steel and the minerals involved in the manufacture of steel.

**Medicine Cabinet in Space** - North Kingstown (R.I.) High School; Cannon School, Concord, N.C.; The

Williston Northampton School, Easthampton, Mass.; South Middle School, St. Peters, Mo.; Holy Family School, Harrisburg, Pa.; Ramstein American High School, Ramstein Air Base, Germany.

The experiment is designed to determine how commonly used medicine cabinet items are altered by an outer space environment.

**Mars Lunch Box** - Trinity Lutheran School, Cedar Rapids, Iowa, partnered with students from Wales, United Kingdom; Washington Jr. High School, Rock Island, Ill., partnered with students in Australia; Northside Middle School, Hampton, Va., partnered with students in Iceland.

The purpose of the experiment is to determine the effect of space travel on the growth of vegetable seeds.

**SINBAD** (The Scientific and Instructional Ballast Alternative Device) - Florida Institute of Technology, Geospace Physics Laboratory, Melbourne, Fla.

The purpose of the experiment is four-fold: 1) study the frequencies of the Orbiter during launch, orbit and landing with a Thread Resonance Indicator; 2)

study the effect of space flight on palm tree seeds; 3) expand on the CAN-DO project in relation to the effect of popcorn in space; and 4) study the reaction of acrylic latex caulking and its outgassing of water vapor.

**PEESOIL** - Gates Chili High School, Rochester, N.Y.; Mynderse Academy, Seneca Falls, N.Y.; Northampton High School, Northampton, Mass.

The students are studying if microgravity and radiation has an effect on the fertility of soil samples as measured by the biodiversity of organisms.

**Process of Germination and Plant Growth** - Frank Elementary School, Guadalupe, Ariz.

This experiment shares a module with "Water, Water Everywhere." The purpose of the experiment is to determine effects the space environment has on seed germination and plant growth. Kentucky Wonder and Quest seeds will be used in this investigation.

Three experiments from Anne Arundel County Public Schools, Md., will share one module. **Spaced Popped Popcorn** - South Shore Elementary School, Crownsville, Md.

Students predict that the factors of microgravity and radiation experienced in space will affect the physical characteristics of unpopped popcorn and that the popcorn will pop at a different rate and volume than a control group.

**Bounce and Stretch** - South Shore Elementary School

Students predict factors of microgravity and radiation will affect the physical characteristics of elastic materials including balls and rubber bands.

**Germ Killers in Space** - Walter S. Mills-Parole Elementary, Annapolis, Md.

The experiment will study the effect of microgravity, radiation and temperature changes on mouthwash and anti-bacterial hand-gel.

More information about the Space Experiment Module program can be found at <http://www.wff.nasa.gov/~sspp/sem/sem.html>



NASA Visitor Center Events  
Scheduled for September

September 2 — Model Rocket Launch

A model rocket launch will be held at 1 p.m. Models of various rockets will be launched. Model rocketeers are invited to bring their own rockets and launch them. The launch will be canceled if it is raining or winds exceed 18 mph.

September 3 — Main Base Biking Tour

There will be a biking tour of the Wallops Main Base beginning at 3 p.m. The tour is 3 miles long and takes approximately one hour. Participants must bring their own bicycles, wear a helmet and sign up at the Visitor Center. The tour will be canceled if it is raining.

September 16 — Bottle Rocket Launch

This program demonstrates the principles of rocketry with water and air fueled bottle rockets. At 1 p.m., we'll show you how to make and fly a bottle rocket. Bring an empty 2-liter plastic soda bottle to make your own and then we'll fly it. The program will be canceled if it is raining.



Saturdays and Sundays — Puppets in Space

Puppets in Space is a 10-minute puppet show presented at 11 a.m. on Saturdays and Sundays. Puppet astronauts and Sam the monkey will explore space flight and the space suit. An eight-minute version of the film "Astrosmile" follows the puppet show.

Sundays — Humans in Space

Humans in space is a 30-minute program presented at 1 p.m. on Sundays. Learn what it's like to live and work in space including a review of what the astronauts eat and what their wardrobes are like in space. The program is followed by a hands-on activity that gives children the opportunity to create their own "space helmet".

Daily — Space Ace

Children 5 to 10 years old can earn a "Space Ace" certificate and a lithograph any day they come to the Visitor Center by completing an activity sheet.

The Visitor Center is open 10 a.m. to 4 p.m. daily through Labor Day. Beginning Sept. 4, the Visitor Center will be closed on Monday and Tuesday and open Thursday through Monday, 10 a.m. to 4 p.m. For further information, call x2298.



PAO Digital Photo  
James McCallops (right), assistant professor of history at Salisbury State University, was guest speaker for the Women of Wallops Federal Women's Program luncheon on Aug. 23. McCallops topic was "Women's Equality; Fact or Fiction".

Single Parenting - Part II

Dr. Chris Garner, Employee Assistance Program affiliate counselor, will be the guest speaker for the EAP monthly discussion group to be held Sept. 14 at 11:30 a.m.

The topic for September is "Single Parenting - Part II". Single parenting was the topic for August and by request, an additional presentation will be made.

If you are a single parent or know someone who may be struggling with finding balance between parenting responsibilities and other work or personal issues, remember that you are not alone. Learn how and where to locate support resources for single parents.

The group will meet in Building F-160, Room C164. Call x66-4600 for further information.

Director's Discretionary Fund 2001 Application On-Line

The Center is now accepting Director's Discretionary Fund (DDF) applications for 2001. Submission of DDF proposals for FY 2001 will be electronic. The DDF is a special program intended to support the imaginative ideas of the people at our Center. It is one of NASA's most visionary programs and intended to lay the foundations of the future.

To apply for the 2001 DDF, go to <<http://university.gsfc.nasa.gov>> click onto Director's Discretionary Fund (left column), click on 2000 DDF Application. Questions may be directed to [ddinfo@pop100.gsfc.nasa.gov](mailto:ddinfo@pop100.gsfc.nasa.gov)

Wallops Shorts .....

Balloon Launch

A NASA scientific balloon was launched from Palestine, Texas on Aug. 19. The 11.82 million cubic foot balloon carried a high energy astrophysics experiment for Dr. Jack Tueller, NASA Goddard Space Flight Center. An operational anomaly occurred during the launch process that resulted in a failure of the balloon. The payload has been refurbished and is awaiting a new flight opportunity.

Associate Branch Head Selected

Dan Mullinix has been selected as Associate Branch Head of the Microwave Systems Branch, Applied Engineering and Technology Directorate (Code 567.W).

Fire Department Responses

- Aug 18 - 25
- Aircraft Stand-bys -- 41
- Fire alarms -- 5
- Ambulance Calls -- 2
- Mutual Aid Assistance -- 3 - Assist Chincoteague Vol. Fire Department, Oak Hall Rescue and Atlantic Medical Center.



It's Time for the Annual Beach Cleanup

Volunteers are needed for the annual beach cleanup, Sept. 16, on Wallops Island. The activity, part of the U.S. Coastal Cleanup, begins at 9 a.m. and usually takes about two hours.

If you would like to volunteer to participate, email Keith Koehler: [keith.a.koehler.1@gsfc.nasa.gov](mailto:keith.a.koehler.1@gsfc.nasa.gov) or call x1139 by Sept. 14.

Inside Wallops is an official publication of Goddard Space Flight Center and is published by the Wallops Office of Public Affairs, Extension 1584, in the interest of Wallops employees.

Editor  
Printing

Betty Flowers  
Printing Management Office

<http://www.wff.nasa.gov>